

WHAT IS CLAIMED IS:

1. A method for producing a wiring board, the method comprising forming at least one wiring layer on both surfaces of an electrically insulating substrate by:

(1) superposing a wiring transfer sheet on at least one surface of the electrically insulating substrate having through holes formed in a thickness direction of the substrate, the through holes being filled with a conductive paste, the wiring transfer sheet comprising a carrier base and a wiring layer formed on a surface of the carrier base, wherein at least an exposed area of the surface of the carrier base having the wiring layer formed thereon is a first rough surface for forming a second rough surface complementary to the first rough surface on an object to which the wiring layer is to be transferred;

(2) heating and pressurizing so as to adhere the wiring layer of the wiring transfer sheet to the electrically insulating substrate, and roughening an exposed area of the surface of the electrically insulating substrate having the wiring layer formed thereon; and

(3) removing the carrier base of the wiring transfer sheet.

2. The method according to claim 1, wherein in step (2), a plurality of convexities are formed on the exposed area of the surface of the electrically insulating substrate having the wiring layer formed thereon.

3. The method according to claim 1, wherein the step (1) further includes superposing the electrically insulating substrate having the wiring transfer sheet superposed thereon, on a wiring board or a wiring board intermediate, and the step (2) further includes

adhering the electrically insulating substrate to a surface of the wiring board or the wiring board intermediate by heating and pressurization.

4. The method according to claim 3, wherein the steps (1) to (3) are repeated.

5. The method according to claim 4, wherein the electrically insulating substrate contains a thermosetting resin which is uncured before heating and pressurization, and in each step (2), heating and pressurization are carried out so that the thermosetting resin contained in the electrically insulating substrate is pre-cured, and in the final step (2), heating and pressurization are carried out so that the thermosetting resin contained in all the electrically insulating substrates is post-cured.

6. The method according to claim 4, wherein the electrically insulating substrates on which the wiring transfer sheets are superposed, are superposed on both surfaces of the wiring board or the wiring board intermediate.

7. A method for producing a wiring board, the method comprising:

(1) superposing an electrically insulating substrate on a surface of a wiring transfer sheet, the wiring transfer sheet comprising a carrier base and a wiring layer formed on a surface of the carrier base, wherein at least an exposed area of the surface of the carrier base having the wiring layer formed thereon is a first rough surface for forming a second rough surface complementary to the first rough surface on an object to which the wiring layer is to be transferred;

(2) forming through holes to expose the wiring layer of

the wiring transfer sheet;

(3) filling the through holes with a conductive paste;

(4) superposing through the electrically insulating substrate the wiring transfer sheet on a wiring board or a wiring board intermediate;

(5) heating and pressurizing to adhere the wiring layer of the wiring transfer sheet to the electrically insulating substrate, and roughening an exposed area of a surface of the electrically insulating substrate on which surface the wiring layer is formed while adhering the electrically insulating substrate to the wiring board or the wiring board intermediate; and

(6) removing the carrier base of the wiring transfer sheet.

8. The method according to claim 7, wherein, in step (5), a plurality of convexities are formed on the exposed area of the surface of the electrically insulating substrate having the wiring layer formed thereon.

9. The method according to claim 7, wherein the steps (1) to (6) are repeated.

10. The method according to claim 9, wherein the electrically insulating substrate contains a thermosetting resin which is uncured before heating and pressurization, and in each step (5), heating and pressurization are carried out so that the thermosetting resin contained in the electrically insulating substrate is pre-cured, and in the final step (5), heating and pressurization are carried out so that the thermosetting resin contained in all the electrically insulating substrates is post-cured.

11. The method according to claim 9, wherein, in the step (4), the wiring transfer sheets on which the electrically insulating substrates are superposed, are superposed through the electrically insulating substrates on both surfaces of the wiring board or the wiring board intermediate.

12. A method for producing a wiring board with a component disposed in an electrically insulating substrate, the method comprising:

(A) superposing an electrically insulating substrate having through holes formed in a thickness direction of the substrate and filled with a conductive paste, on a wiring board or a wiring board intermediate;

(B) obtaining a laminate by adhering the electrically insulating substrate to the wiring board or the wiring board intermediate, by heating and pressurization;

(C) forming a space within the laminate in which a component is to be placed;

(D) mounting the component on a wiring layer-formed surface of a wiring transfer sheet, wiring transfer sheet comprising a carrier base and a wiring layer formed on a surface of the carrier base, wherein at least an exposed area of the surface of the carrier base having the wiring layer formed thereon is a first rough surface for forming a second rough surface complementary to the first rough surface on an object to which the wiring layer is to be transferred;

(E) superposing the wiring transfer sheet on a surface of the laminate so as to position the component in the space; and

(F) heating and pressurizing to adhere the wiring layer of the wiring transfer sheet to the electrically insulating substrate, and roughening an exposed area of a surface of the electrically insulating substrate having the wiring layer formed thereon, while filling a void around the component with resin contained in the laminate; and

(G) removing the carrier base of the wiring transfer sheet.

13. The method according to claim 12, wherein an electrically insulating substrate containing an uncured thermosetting resin is employed in step (A), and heating and pressurization are carried out so that the thermosetting resin is pre-cured in step (B).

14. The method according to claim 12, wherein a wiring board intermediate in which all electrically insulating substrates contain an uncured thermosetting resin is used in step (A).

15. A method for producing a wiring board with a component disposed in an electrically insulating substrate, the

method comprising:

(A') obtaining a wiring board or a wiring board intermediate by:

(1) superposing a wiring transfer sheet on a first electrically insulating substrate having through holes formed in a thickness direction of the substrate and filled with a conductive paste, the wiring transfer sheet comprising a carrier base and a wiring layer formed on a surface of the carrier base, wherein at least an exposed area of the surface of the carrier base having the wiring layer formed thereon is a first rough surface for forming a second rough surface complementary to the first rough surface on an object to which the wiring layer is to be transferred;

(2) heating and pressurizing to adhere a wiring layer of the wiring transfer sheet to the first electrically insulating substrate, and roughening an exposed area of a surface of the first electrically insulating substrate having the wiring layer formed thereon; and

(3) removing the carrier base of the wiring transfer sheet;

(4) after removing the carrier base, disposing a second electrically insulating substrate having second through holes formed in a thickness direction of the substrate and filled with a conductive paste, on the wiring board or the wiring board intermediate;

(B) obtaining a laminate by adhering the second electrically insulating substrate to the wiring board or the wiring board intermediate by heating and pressurization;

(C) forming a space within the laminate in which a component is to be placed;

(D) mounting the component on a wiring layer-formed surface of the wiring transfer sheet according to claim 1;

(E) superposing the wiring transfer sheet on a surface of the laminate so as to position the component in the space; and

(F) heating and pressurizing to adhere the wiring layer of the wiring transfer sheet to the second electrically insulating substrate, and roughening an exposed area of a surface of the second electrically insulating substrate having the wiring layer formed thereon, while filling a void around the component with resin contained in the laminate; and

(G) removing the carrier base of the wiring transfer sheet.

16. The method according to claim 15, wherein an electrically insulating substrate containing an uncured thermosetting resin is employed in the step (1) of step (A'), and heating and pressurization are carried out so that the thermosetting resin is pre-cured in the step (2).

17. The method according to claim 15, wherein the second electrically insulating substrate containing an uncured thermosetting resin is employed in the step (A'), and heating and pressurization are carried out so that the thermosetting resin contained in the second electrically insulating substrate is pre-cured in the step (B).

18. The method according to claim 15, wherein, in the step (A'), the step (1) further includes superposing the first electrically insulating substrate having the wiring transfer sheet superposed thereon, on a surface of a wiring board or a wiring board intermediate, and the step (2) further includes adhering the electrically insulating substrate to the surface of the wiring board or the wiring board intermediate.

19. The method according to claim 18, wherein the steps (1) to (3) are repeated in the step (A').